

REMARKS

Please charge any fee deficiency or credit any overpayment to Deposit Account

No. 01-2300.

Respectfully submitted,



Richard J. Berman

Registration No. 39,107

ARENT FOX KINTNER PLOTKIN & KAHN, PLLC

1050 Connecticut Avenue, N.W.,

Suite 600

Washington, D.C. 20036-5339

Tel: (202) 857-6000

Fax: (202) 638-4810

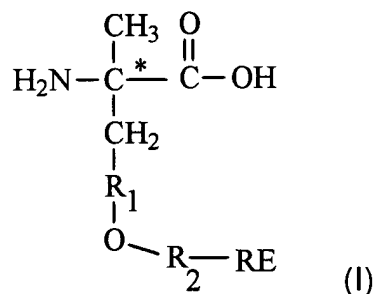
RJB/ccd

2010-09-01 10:00:00

MARKED UP COPY OF SPECIFICATION

[0003] Generally speaking, PET uses Radio-compounds labeled with the positron-emitters such as ^{18}F , ^{11}C , ^{13}N and ^{15}O . SPECT uses radio compounds labeled with the single-photon-emitters [radionuclides that have fewer neutrons than protons, such as ^{18}F , ^{11}C , ^{13}N and ^{15}O , although ^{75}Br and ^{124}I can also be used. SPECT, on the other hand, generally uses radionuclides that have more neutrons than protons,] such as ^{67}Ga , ^{77}Br , ^{123}I , ^{124}I , ^{125}I , ^{126}I , ^{131}I and ^{201}Tl .

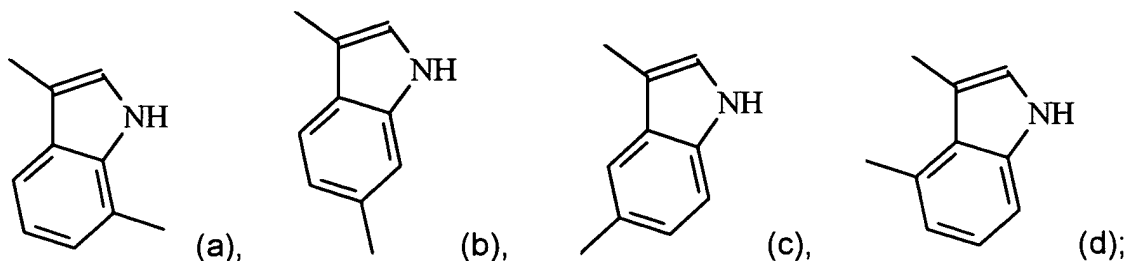
[0010] The present invention includes compounds of formula (I), or pharmaceutically acceptable salts thereof:



wherein

the C marked with an asterisk represents a chiral center and the compound is present in the L-form, the D-form or as a racemic mixture;

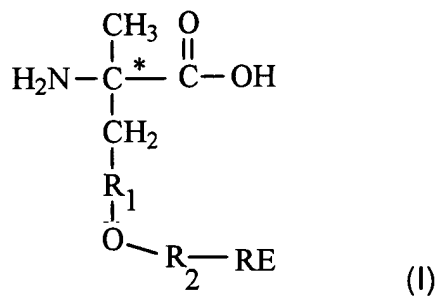
R₁ is selected from the group consisting of a single bond, phenyl, and a group of formula (a), (b), (c) or (d)



R₂ is C₁-C₇ alkyl; and

RE is selected from the group consisting of ^{11}C , ^{13}N , ^{15}O , ^{18}F , ^{67}Ga , ^{75}Br , ^{77}Br , ^{123}I , ^{124}I , ^{125}I , ^{126}I , ^{131}I and ^{201}Tl , preferably [^{75}Br , ^{124}I] ^{123}I , ^{125}I [or] and ^{18}F .

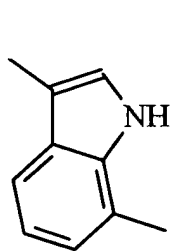
[0015] In this invention, compounds of formula I have been developed:



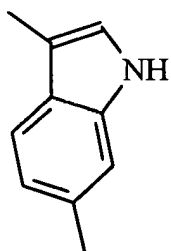
wherein

the C marked with an asterisk represents a chiral center and the compound is present in the L-form, the D-form or as a racemic mixture;

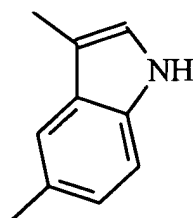
R_1 is selected from the group consisting of a single bond, phenyl, and a group of formula (a), (b), (c) or (d)



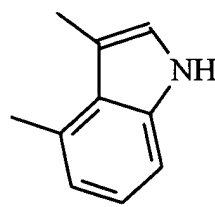
(a),



(b),



(c),



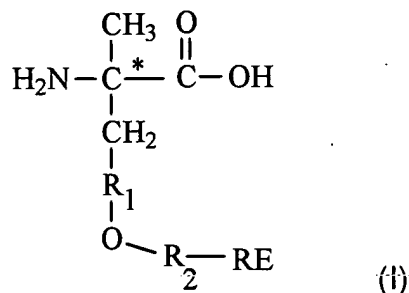
(d);

R_2 is $\text{C}_1\text{-C}_7$ alkyl; and

RE is selected from the group consisting of ^{11}C , ^{13}N , ^{15}O , ^{18}F , ^{67}Ga , ^{75}Br , ^{77}Br , ^{123}I , ^{124}I , ^{125}I , ^{126}I , ^{131}I and ^{201}Tl , preferably [^{75}Br , ^{124}I] ^{123}I , ^{125}I [or] and ^{18}F .

MARKED UP COPY OF CLAIMS

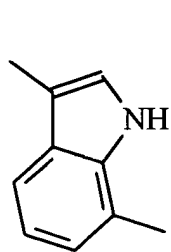
1. A compound of formula (I), or a pharmaceutically acceptable salt thereof:



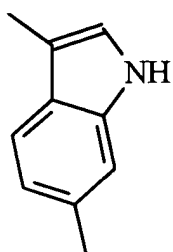
wherein

the C marked with an asterisk represents a chiral center and the compound is present in the L-form, the D-form or as a racemic mixture;

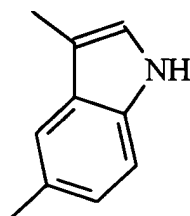
R₁ is selected from the group consisting of a single bond, phenyl, and a group of formula (a), (b), (c) or (d)



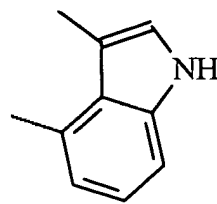
(a),



(b),



(c),

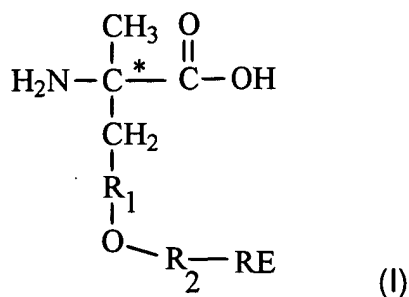


(d);

R₂ is C₁-C₇ alkyl; and

RE is selected from the group consisting of [⁷⁵Br, ¹²⁴I] ¹²³I, ¹²⁵I and ¹⁸F.

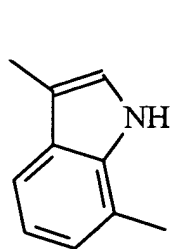
34. A method of synthesizing a compound of formula (I):



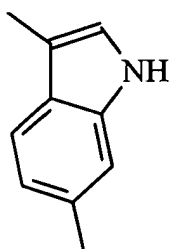
wherein

the C marked with an asterisk represents a chiral center and the compound is present in the L-form, the D-form or as a racemic mixture;

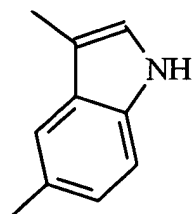
R₁ is selected from the group consisting of a single bond, phenyl, and a group of formula (a), (b), (c) or (d)



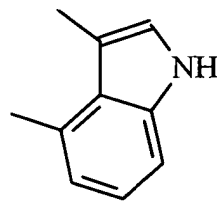
(a),



(b),



(c),

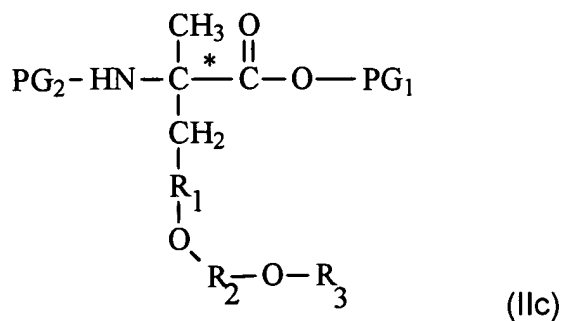


(d);

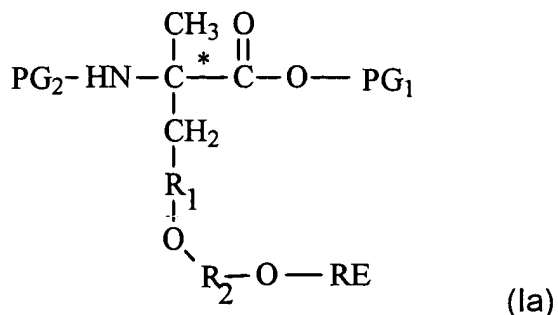
R₂ is C₁-C₇ alkyl, and

RE is selected from the group consisting of [⁷⁵Br, ¹²⁴I] ¹²³I, ¹²⁵I and ¹⁸F, the process comprising the following steps:

(1) reacting a compound of formula (IIc):



wherein R_1 and R_2 are the same as above, R_3 is a leaving group, PG_1 is a carboxyl protecting group and PG_2 is an amino protecting group, with a salt of RE, wherein RE is the same as above, to produce a compound of formula (Ia):

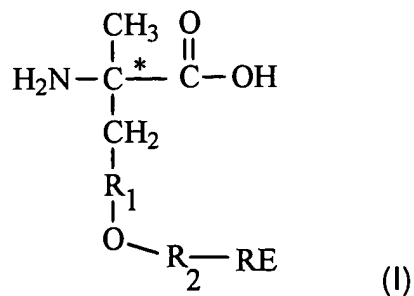


wherein R_1 , R_2 , RE, PG_1 and PG_2 are the same as above; and

(2) removing the protecting groups.

38. A method of imaging a tumor in a patient using positron emission tomography (PET) or single photon emission computed tomography (SPECT) imaging, the method comprising

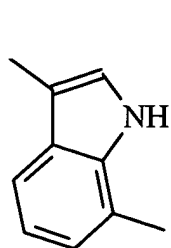
administering to the patient a tumor imaging effective amount of a compound of formula (I), or a pharmaceutically acceptable salt thereof:



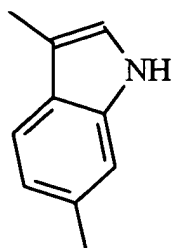
wherein

the C marked with an asterisk represents a chiral center and the compound is present in the L-form, the D-form or as a racemic mixture,

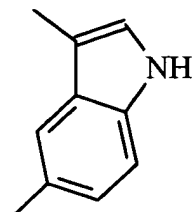
R₁ is selected from the group consisting of a single bond, phenyl, and a group of formula (a), (b), (c) or (d)



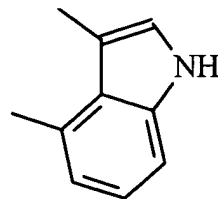
(a),



(b),



(c),



(d),

R₂ is C₁-C₇ alkyl, and

RE is selected from the group consisting of [⁷⁵Br, ¹²⁴I], ¹²³I, ¹²⁵I and ¹⁸F; and imaging the tumor using PET or SPECT imaging.

26719-1.DOC